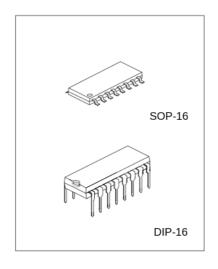
AM/FM RADIO IC

DESCRIPTION

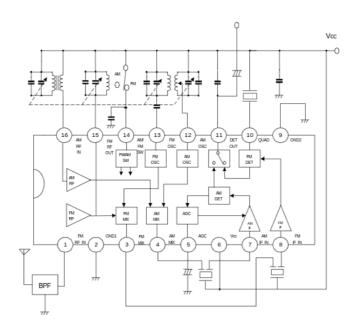
The UTC TA2003 is AM/FM Radio IC (FM F/E + AM/FM IF) which is designed for AM/FM Radios.

FEATURES

- * FM IFT,AM IFT and FM Detector Coil aren't needed.
- * Operating Supply Voltage Range
- * VCC(opr) = 1.8 ~ 7V (Ta=25°C).



BLOCK DIAGRAM



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EXPLANATION OF TERMINAL

TERMINAL VOLTAGE: Typical DC voltage at Ta=25°C, Vcc=3V and no signal with Test Circuit

NO	SYMBOL	CONTENTS	INTERNAL	TERMINAL VOLTAGE		
			CIRCUIT			
				AM	FM	
1	FM AF IN	Input of FM RF Amplifier	FM RF OUT BY SB SB SB SB SB SB SB SB SB	0	0.7	
2	GND1	GND for RF, DSC and MIX Stage	-	0	0	
3	FM MIX	Output of FM MIX	ALI FILE	0.4	1.7	
4	AM MIX	Output of AM MIX	RE OUT THE STATE OF THE STATE	0.6	0	
5	AGC	By pass of AM AGC	FM RF OUT	0	0	
6	Vcc	-	-	3.0	3.0	
7	AM IF IN	Input of AM IF Amplifier	FM RF OUT STORY STORY	3.0	3.0	
8	FM IF IN	Input of FM IF Amplifier	FM RF OUT	3.0	3.0	
9	GND2	GND for IF stage	-	0	0	
10	QUAD	FM QUAD Detector Ceramic Discriminator is connected. Recommendation CDA 10.7MG31 (MURATA MFG. CO., LTD)	FM RF OUT T AND SOOD TO SOO	2.5	2.2	

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NO	SYMBOL	CONTENTS	INTERNAL CIRCUIT	TERMINAL VOLTAGE	
				AM	FM
11	DET OUT	Output of FM/AM Detector	FM RF OUT	1.4	1.1
12	AM OSC	AM local Oscillator Terminal Oscillator Coil is connected.	FM RF OUT	3.0	3.0
13	FM OSC	FM local Oscillator Terminal Oscillator Coil is connected	FM RF OUT	0.9	3.0
14	AM/FM SW	AM/FM switch connected to Pin14 Vcc->FM mode Pin14 OPEN->AM mode	FM RF OUT	0.9	3.0
15	FM RF OUT	FM RF Coil is conected	cf. PIN 1	3.0	3.0
16	AM RF IN	input of AM RF Amplifier	FM RF OUT	3.0	3.0

ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARA	METER	SYMBOL	VALUE	UNITS				
Supply Voltage		Vcc	8	V				
Power Dissipation DIP-16		PD(Note)	750	mW				
	SOP-16		350					
Operating Temperature		Topr	-25~75	°C				
Storage Temperature	e	Tstg	-55~150	°C				

ELECTRICAL CHARACTERISTICS

Unless otherwise specified,Ta=25°C,VCC=3V, FE : f = 98MHz, fm = 1KHz FM IF : f = 10.7MHz, fm = 1KHz

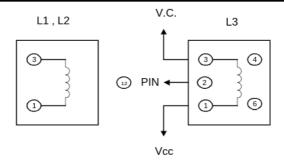
AM : f = 1MHz MOD = 30% f

AM : f = 1MHz, MOD = 30%, fm = 1 KHz

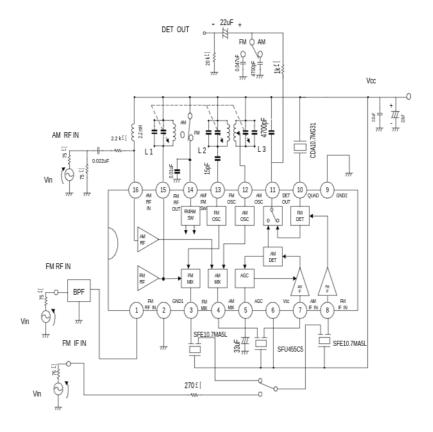
		. 1 – IMITZ, MOD – 30%, IIII – I KTZ						
PARAMETER		SYMBOL	TEST	TEST CONDITIONS	MIN	TYP	MAX	UNIT
			CIRC-					
			UIT					
Supply Current		Icc (FM)	1	FM Mode, Vin=0	-	10.5	16.5	mA
		Icc (AM)	1	AM Mode, Vin=0	-	5.0	8.0	
	Input Limiting Voltage	Vin(lim)	1	-3dB limiting point	-	12	-	dB V EMF
F/E	Qulescent SensitivIty	Qs	1	S/N=30dB	1	12	-	dB V EMF
	Local OSC Voltage	Vosc	2	fosc=108MHz	160	240	320	mVrms
	Local OSC Stop Voltage	Vstop(FM)	2	Vin=0	-	1.2	-	V
	Input Limiting Voltage	Vin(lim) IF	1	-3dB limiting point	42	47	52	dB V EMF
FM	Aecovered Output Voltage	VOD	1	Vin=80dB V EMF	50	70	90	mVrms
IF	Signal To Noise Ratio	S/N	1	Vin=80dB V EMF	-	62	-	dB
	Total Harmonic Distortion	THD	1	Vin=80dB V EMF	-	0.4	-	%
	AM Rejection Ratio	AMR	1	Vin=80dB V EMF	-	33	-	dB
	Voltage Gain	Gv	1	Vin=27dB V EMF	15	32	50	mVrms
АМ	Recovered Output Voltage	VOD	1	Vin=60dB V EMF	35	60	85	mVrms
	Signal To Noise Ratio	S/N	1	Vin=60dB V EMF	-	43	-	dB
	Total Harmonic Distortion	THD	1	Vin=60dB V EMF	-	1.0	-	%
	Local DSC Stop Voltage	Vstop (AM)	1	Vin=0	-	1.6	-	V

COIL DATA (Test circuit)

TOTAL BY THE CONTROLLY										
COIL NO.	TEST	L	Co	Qo	TURNS					WIRE
	FREQ									
	(Hz)	(mH)	(pF)		1-2	2-3	1-3	1-4	4-6	
L1 FM RF	100M	-	-	100	-	-	-	2.25	-	0.5 UEW
L2 FM	100M	-	-	100	-	-	1.75	-	-	0.5 UEW
osc										
L3 AM	796K	26B	-	125	14	86	-	-	-	0.06 UEW
osc										



TEST CIRCUIT 1



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TEST CIRCUIT 2

